

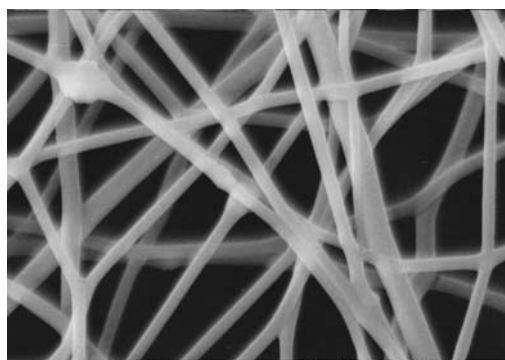
Preparation of poly(vinyl alcohol)/titanium dioxide nanocomposite produced by electrospinning.

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Composites of organic-inorganic hybrids, poly(vinyl alcohol)/ titanium dioxide anatase, were prepared by electrospinning. Electrospinning is a simple and low-cost method for making polymer fibers with nanometric diameters. Some variables influence in producing the fibers, such as polymer concentration, applied voltage, injection rate and tip-to-collector distance (TCD). The research aimed to demonstrate that it is possible to prepare composite in the form fibers of the basis of PVA loaded with nanoparticles of TiO₂ anatase. Samples were prepared using 8.0 KV and injection rate of 0.7 mL/h, varying the concentration of TiO₂ and maintaining the concentration of PVA constant. The morphologies of the films were studied by electronic scanning microscopy (SEM). The results showed that most fibers have diameters between 150 and 700 nm.



SEM micrograph of the as-spun PVA-TiO₂ nanofiber (8.0 KV and 0.7 mL/h).

Keywords: electrospinning, nanocomposite, Poly(vinyl alcohol), titanium dioxide, nanofibers.

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